

# **ATTACHMENT D**

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

In the Matter of	)	
	)	
Deployment of Wireline Services Offering	)	CC Docket No. 98-147
Advanced Telecommunications Capability	)	
	)	
and	)	
	)	
Implementation of the Local Competition	)	CC Docket No. 96-98
Provisions of the Telecommunications	)	
Act of 1996	)	

**DECLARATION OF CHARLES KIEDERER**

1. My name is Charles Kiederer. I am Director, Wholesale Services Technology in the Technology organization for Verizon. In this position, I am responsible for providing support to the Wholesale Services Marketing organization on technical issues associated with the development of wholesale products and services. I earned my Bachelor of Science degree in Electrical Engineering from the Rochester Institute of Technology in 1972 and a Masters of Business Administration degree from Pace University in 1986. I have 29 years of experience in New York Telephone, NYNEX, Bell Atlantic and Verizon. During that time, I have held a variety of positions of increasing responsibility in Technical Services, Engineering and Planning. Prior to my present assignment, I was Director – Network Interoperability. In that position, I was responsible for analyzing and resolving technical issues associated with Interexchange Carriers and Competitive Local Exchange carriers ("CLECs") and the development of overall network architecture recommendations.

2. I present this declaration for the purposes of describing the space limitations within remote terminals that Verizon has installed within the loop environment and the architecture of such remote terminals as they are delivered from the manufacturer and/or assembling organization. I will also describe the manner in which transmissions from a Verizon central office flow through a remote terminal and the technically feasible manner in which a competing carrier may obtain subloops from Verizon in order to offer digital subscriber line (“DSL”) services.

3. Verizon uses three basic forms of terminal enclosures to house circuits and equipment remotely located from the central office. These are controlled environmental vaults (“CEVs”), which are below-ground structures that are kept at controlled temperature and humidity conditions; controlled environmental huts, which are similar above-ground enclosures; and cabinets, which are small, above-ground, pad, wall or pole-mounted structures with no environmental controls. In addition to these three types of remote enclosures, loop equipment can also be located in equipment rooms in the basements or other areas of buildings. CEVs and huts are sized so that a technician can enter the enclosure and gain access to the equipment and wiring in the limited space available. However, there is no space for multiple technicians to access and perform activities at the same location. In cabinets a technician gains access to wiring from outside the structure by opening a hinged door.

4. Verizon orders remote terminals that are pre-equipped, generally for a three-year planning period, and they are completely pre-wired for the maximum services and capabilities that can be provided from that terminal. For example, a cabinet could be shipped, assembled and equipped with three channel bank shelves to meet the initial planning design, but it will be totally pre-cabled for the maximum number of channel banks that can be accommodated by the cabinet.

Ordering pre-wired remote terminals is the norm in the industry and is far more cost-effective and efficient than simply ordering enclosures and undertaking to wire them on-site. In the case of cabinets, equipment may be mounted back-to-back in the cabinet, making it difficult to gain access to install cabling to new equipment positions. Once the cabinet is deployed in the field, equipment is physically installed in the cabinet, and the structure is exposed to the environment, there is significant cost, complexity and service disruption potential involved with attempting to route new wiring and cabling through non-accessible wiring ducts within the cabinet. Similarly, in the case of CEVs and huts, equipment is mounted against the wall of the structure, making it extremely difficult to install additional cabling between new and existing equipment. All three types of remote terminals were designed and ordered to meet Verizon's existing and planned needs to provide dialtone telephone service, not to accommodate collocation. As a result, it would be difficult and disruptive to attempt to install and interconnect equipment from other carriers in existing remote terminals. Verizon currently has about 38,000 remote terminals in operations in its service territory. Moreover, in the vast majority of remote terminals, there is little or no vacant space that could accommodate other carriers' equipment.

5. In addition, unlike a central office, it would be physically impossible to segregate Verizon's equipment into separate space in a remote terminal. Securing equipment inside a locked enclosure inside the remote terminal is not a practical solution, because of the additional space such an enclosure would occupy within the structure, in which excess space does not exist. Providing secure access to remote terminal locations would likewise become an increasingly difficult problem to administer and control. Access to the various types of remote terminals range from padlocks, to keys, to special tools. Retrofitting tens of thousands of remote terminals

for new security mechanisms to give other carriers access would be a monumental and costly undertaking.

6. For these reasons, any collocation that is required within remote terminals (in those few instances where any collocation space is available) should be limited to virtual collocation, in which Verizon's own technicians install and maintain equipment that the collocators supply. Virtual collocation will enable Verizon to both protect its equipment, because only its technicians will gain access, and make more efficient use of the limited available space, because it eliminates the need to segregate equipment within the remote terminal. It would also prevent one carrier's collocated equipment from being inadvertently affected by another competitor's technician working in the limited space. If, however, the Commission does require physical collocation, which it should not, the only practical means of protecting telephone company equipment is to allow use of escorts.

7. Collocation in remote terminals is not the most efficient way for a data carrier to connect to the Verizon's network to provide DSL service. This is because the accessible terminal, which is the point of interconnection, is often not in the remote terminal itself. Instead, it is at a feeder distribution interface ("FDI," also called the serving area interface), which is often located near, but not in, the remote terminal. A data carrier that wishes to interconnect could in many cases erect a small cabinet close to the FDI or lease a small amount of space in, or on the outside wall of, a nearby building to locate a cabinet for that purpose.<sup>1</sup>

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<sup>1</sup> Several carriers could share such a structure to minimize cost and eliminate the need for multiple zoning or other municipal permits.



8. The reason that interconnection is feasible at the FDI rather than at the remote terminal is because the distribution pairs are terminated and accessible only at the FDI. A remote terminal enclosure does not typically contain an accessible interconnection point. This is due, in large part, to the architecture and engineering design of the Digital Loop Carrier ("DLC") system. The typical architecture of a fiber-fed DLC system is as follows (see Figure 1). The fiber cable from the central office is terminated inside the remote terminal electronics cabinet and is cross-connected, through the use of a mini fiber distribution frame, to the high speed side of the DLC electronics. Copper feeder cable, known as derived feeder pairs, is extended from the DLC electronics and hard-wire connected through electrical protectors units, which protect the DLC equipment from outside power surges. The protector blocks, mounted in the remote terminal enclosure, are subsequently hard-spliced to copper cables leaving the remote terminal and terminating at one or more FDIs. These FDIs may be located adjacent to the remote terminal electronics cabinet, or may be located as much as several thousand feet from the serving remote terminal cabinet, close to the customer location. All splicing is completed in a splice chamber that is part of the cabinet or in splice enclosures at the CEV or hut. In some cases, a splicing manhole may exist near the remote terminal. In order to gain access to the distribution pairs at any point other than the FDI, splices would need to be physically accessed and opened between the remote terminal and the FDI. This becomes a customer service issue, because customers may need to be taken out of service when splices are opened, as well as a very labor-intensive work operation. It was for this reason that federal regulations consider opening splices not to be a technically feasible method of interconnection. Therefore, the FDI is the most logical, cost-efficient and technically, as well as operationally, feasible point in the network to access the distribution sub-loops for interconnection.

9. As a result, there is no need for a competitor to locate equipment in the remote terminal in order to connect to Verizon's distribution network. Even if there were room available in remote terminals for that purpose, which there usually is not, other alternatives for sub-loop interconnection at the FDI are available to competitors.

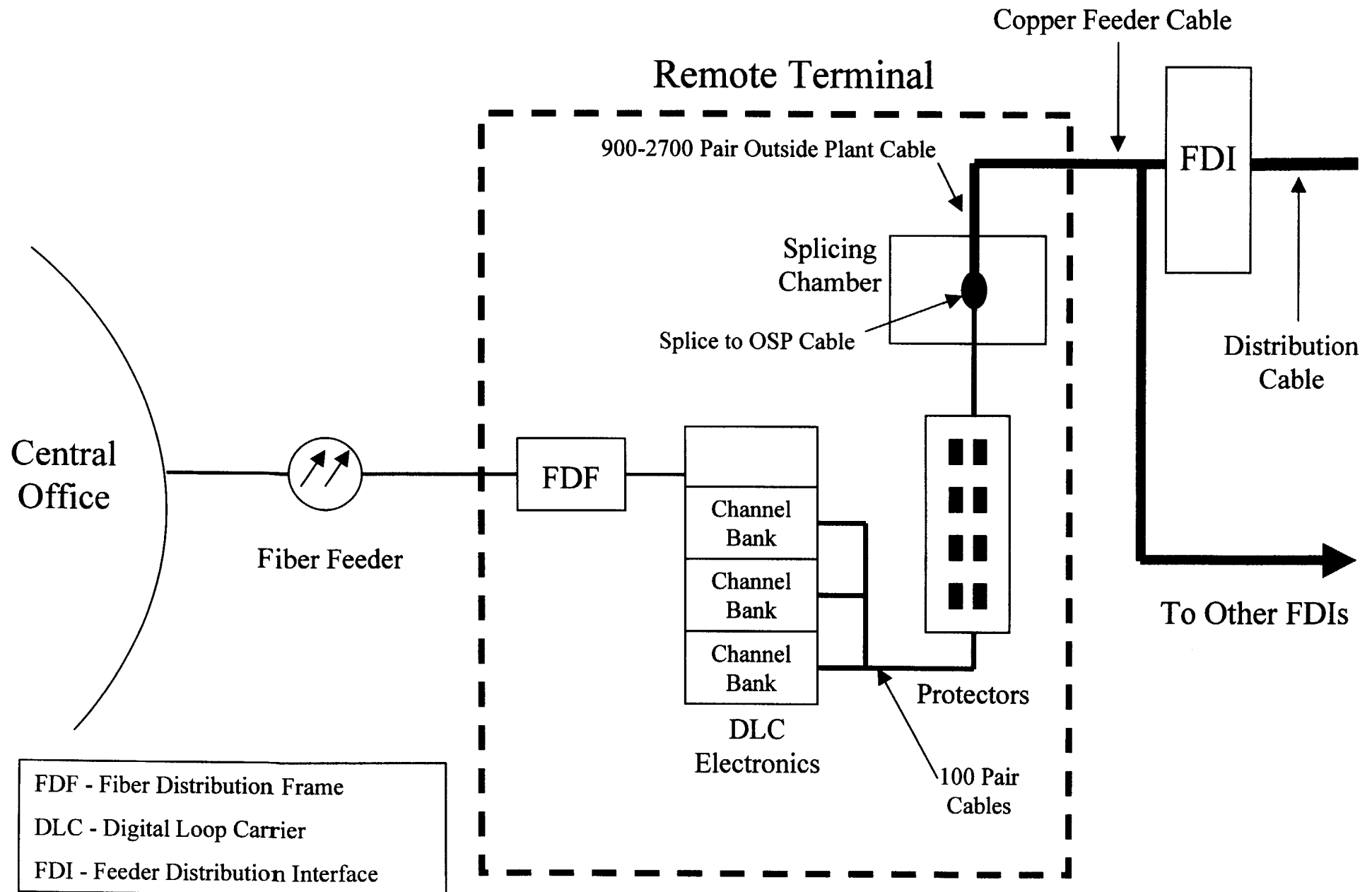
10. In addition, it would be both inefficient and operationally chaotic to allow competitors to supply their own line cards for insertion into Verizon's network equipment located in remote terminals. Each line card or cards would need to be dedicated to an individual carrier, but it is unlikely that carriers will use all of the circuits available on the line card. This results in an inefficient use of resources in potentially tens of thousands of Verizon's remote terminals. Furthermore, Verizon does not have systems today that can inventory which line cards are assigned to which carrier in which remote terminals. Existing systems were designed to operate under the assumption that all equipment located at a remote terminal is owned and administered by Verizon. The massive changes to these systems needed to accommodate competitors' line cards would be very expensive and time-consuming, assuming they could be made at all.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on October 10, 2000

  
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Charles Kiederer

# Figure 1 - Typical Remote Terminal Architecture



# **ATTACHMENT E**



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Provisions of the  
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CC Docket No. 96-98

**VERIZON<sup>1</sup> PETITION FOR RECONSIDERATION**

**I. Introduction and Summary**

The Commission should reconsider the "default" 90-day collocation provisioning interval that it adopted in the *Order on Reconsideration*.<sup>2</sup> In its place, the Commission should adopt a default interval based on the intervals established by the New York state commission, which the Commission approved in granting Verizon section 271 long distance authority in that state. And the Commission should confirm that the default

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<sup>1</sup> The Verizon telephone companies ("Verizon") are the affiliated local telephone companies of Verizon Communications Corp. These companies are listed in Attachment A.

<sup>2</sup> *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, Order on Reconsideration and Second Further Notice of



interval adopted here does not apply in any instance where there is an interval in a state tariff that is effective or pending approval, in a statement of generally available terms and conditions, or in an interconnection agreement. The reasons for this are straightforward.

The evidence in this petition demonstrates that the local exchange carriers cannot consistently meet a 90-calendar day target. In Verizon's experience, it cannot be met in as many as half of the applications, despite a carrier's best efforts. Not surprisingly, no state has adopted intervals for all collocation applications as short as the 90-day standard. Also, unlike the Commission's fixed interval, the intervals in the states allow additional time for special construction. An unrealistic interval will harm collocators as well as local exchange carriers, because the collocators will not have a basis for coordinating their own construction activities with the expected delivery date. The relief requested herein would prevent the Commission from overriding the judgment of the state commissions that are still considering the issue while providing a more reasonable default standard that has promoted competitive entry.

## **II. The 90 Day Collocation Provisioning Interval Cannot Be Met On A Consistent Basis.**

In the *Order on Reconsideration*, the Commission adopted a "default" rule requiring an incumbent local exchange carrier to provide collocation within 90 calendar days, if (and only if) a different interval has not been set by a state commission or by agreement between the parties to interconnection agreements. *See Order on*

*Reconsideration*, ¶¶ 22, 27-29. This default interval, which is shorter than the intervals adopted by state commissions that have exhaustively reviewed what is and is not feasible in their states, is measured starting from the date an incumbent receives a complete collocation application to the date that the space is ready for occupancy by the collocator. *See id.*

The Commission should reconsider this decision and adopt default intervals that are no shorter than those adopted by the New York State commission, which the Commission has already found reasonable in its review of Verizon's section 271 application. *See Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act To Provide In-Region, InterLATA Service in the State of New York*, 15 FCC Rcd 3953, ¶¶ 74-75 (1999) ("*New York Order*"). While the New York intervals can be as short as 76 business days, Verizon has been able to meet them, and the existence of these intervals has served the interests of the collocators. An unrealistic interval that the local exchange carrier is unlikely to meet gives the collocator no reliable basis for ordering its equipment, scheduling installation with vendors, coordinating its other construction activities, or planning its marketing activities in the area. In contrast, the intervals adopted in New York not only provide for timely provisioning of collocation that meets the expressed needs of the collocators, but they provide the collocators with a high degree of confidence that the collocation arrangements will actually be available by the scheduled date. The same cannot be said of the Commission's blanket 90 calendar day interval.

An analysis of the work that must be performed in order to complete collocation arrangements demonstrates that a 90-day interval cannot be met on a consistent basis. Moreover, this is not based on speculation or supposition, but instead is based on Verizon's extensive and successful experience providing collocation for competitors. Indeed, Verizon's incumbent local exchange carriers have the most experience in the industry in providing collocation, having provided over 13,000 collocation arrangements to date, with almost 4,000 more under construction. The demand for collocation has doubled every year for the last few years and shows no sign of abating. This has required Verizon to improve its methods and procedures just to avoid falling behind. In addition, Verizon is subject to all of the state commission orders in the states cited by the Commission, and knows first-hand how difficult it is to meet those intervals, all of which are longer than the Commission's 90-day standard.

Attachment B (Declaration of Karen Maguire) demonstrates why the Commission's 90-day interval cannot be met even where central office space is already conditioned for collocation. Such collocation arrangements normally take at least 76 business days, or approximately 105 calendar days, to complete. There is no wasted time in this schedule. During this time, Verizon must; (1) process the application and perform a site survey to determine if the application can be accommodated; (2) respond to the collocator and receive its acceptance; (3) issue a request to vendors for bids to provide engineering, material/equipment purchase and installation; (4) select a vendor and award the bid; (5) wait for the vendor to order and receive delivery of materials and perform the installation work (by far the longest part of the schedule – ordinarily about 46 business

days); (6) review the work and schedule an acceptance meeting with the collocator; and (7) update the operating support systems.

The biggest constraint on shortening the process is external – the time it takes to order and receive materials from manufacturers, and the time it takes for vendors to complete the installation work. This is key because of the critical role that these manufacturers and vendors play in completing collocation arrangements. Verizon is not a manufacturer and depends on outside sources for all of the materials it needs to provide the infrastructure for collocation. Likewise, although Verizon performs some installation work itself, it depends primarily on outside vendors for installation and construction activities. In both cases, Verizon competes with other telecommunications carriers, including the collocators themselves, for outside resources that are in short supply due to the relentless demand for construction of telecommunications infrastructure. For instance, during a recent six-month period in Pennsylvania and Delaware, vendors turned down over 170 jobs that Verizon put out for bid due to manpower constraints. With the intense amount of construction in the telecommunications industry, the incumbent local exchange carriers cannot obtain quicker performance from suppliers and vendors.

Attachment C (Declaration of Ralph Carey) explains why more time is necessary when space must be conditioned, asbestos must be removed, or special construction activities are necessary. The state commissions that have set their own collocation intervals have recognized the need for additional time in such circumstances. For example, New York allows 15 additional business days for special construction. In addition, the state commissions have recognized that the local exchange carrier's ability to

perform such construction activities quickly depends on the ability to order materials and place bids with contractors in advance. Accordingly, the state commissions allow significantly longer intervals if the collocators do not provide a forecast or if they submit a significant volume of orders at the same time.

The need for special construction activities has become increasingly common as the demands for more collocation space require reconfiguration or expansion of central office space. In other words, the fact that there already is so much existing collocation -- in some case as many as 20 existing collocators in a single office -- means that extra work is needed to build or convert other space in order to accommodate additional collocators. For example, Verizon has often had to convert administrative space, employee lounge areas, and even restrooms to central office space. Such conversions require complete demolition of existing walls, ceilings, lighting and electrical fixtures and construction of supporting infrastructure for the power, cabling, and facilities needed to provide a central office environment.

In addition, Verizon has engaged in a major central office construction program to meet collocators' requests. Prior to 1998, Verizon did not anticipate that it would have to make any significant additions to its central office buildings. There were only 5 building additions in 1998 and 11 in 1999. Yet, over the next two years, Verizon plans to build approximately 200 building additions in Verizon's eastern region alone, as a direct result of the need to accommodate collocation. In short, Verizon is working furiously to accommodate additional collocation, both by conditioning additional space in existing central offices and constructing additions to others, but the work necessary to do so

simply takes longer than providing collocation in an office where there already is conditioned space available.

Given these facts, it is simply not realistic to expect the incumbent local exchange carriers to meet a 90-day collocation interval with the degree of consistency that the Commission and the collocators would expect. Verizon is already subject to the intervals mandated by the state commissions in all of the states listed in the *Order on Reconsideration*. Despite the unrelenting pace of collocation orders, Verizon has been able to meet those intervals with an average of 95 percent on-time performance or better.<sup>3</sup> However, the same data show that a 90-day interval cannot be met with any degree of consistency.

In addition, none of the state commission orders cited in the *Order on Reconsideration* supports the Commission's conclusion that a 90-day interval is reasonable. *See* Attachment D (providing an analysis of the state commission intervals). Unlike the default interval in the order here, which is measured from the date the application is filed with the incumbent, the intervals in the state orders typically start on the date that the collocator responds to the incumbent local exchange carrier's acceptance of the application. During this time, the local exchange carrier must process the application, perform a site survey, develop a price quote, issue an acceptance to the collocator, and wait for the collocator's response. This process can take from 15 to 30

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<sup>3</sup> The Commission found that Verizon was subject to a 95 percent on-time performance standard in the New York 271 order. *See New York Order*, ¶ 75. Verizon's recent performance was negatively impacted by the August work stoppage, which also may affect collocation orders for several months as pending orders are completed.

days, and sometimes more, depending on how quickly the collocator responds and submits any required deposit. Also, all of the state commission orders allow substantially more than 90 days for providing collocation in unconditioned space. Consequently, the state commission intervals do not provide any evidence that the 90-day interval is either reasonable or achievable.

For instance, the Commission points to the interval adopted by the Texas commission, stating that it can be as short as 55 calendar days where the collocator agrees to install its own bays or racks. *See Order on Reconsideration*, ¶ 17. However, as the Commission notes, this interval only runs from the date that the collocator accepts the incumbent local exchange carrier's price quote. The interval for the incumbent local exchange carrier to produce a price quote can be from anywhere from 10 to 30 business days, depending on how many applications the collocator submits in a given week, and the collocator's acceptance can take additional time, up to a maximum of 65 business days. Consequently, even where the collocator installs its own equipment, the 55-day interval for this type of collocation request can routinely be 75 days (if the incumbent and the collocator each take only 15 days to provide and accept a price quote) and can be much longer depending on how long the collocator takes to respond. When the incumbent local exchange carrier installs the bays, the interval can be as long as 180 calendar days. And if the request is for more than 50 Amp service or for unconditioned space, the total intervals run to as much as 250 days. Intervals also can be extended when there are above-average increases in demand for collocation. As a result, the intervals

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adopted in Texas provide no support for the Commission's conclusion that carriers should be able to provide all types of physical collocation within 90 calendar days from submission of an application.

Similarly, the Commission pointed to US West, which has agreed to provide collocation within 45 calendar days when space and power are available. *See Order on Reconsideration*, ¶ 18. However, as indicated in US West's web site, <http://www.uswest.com/wholesale/notification/collo/cb-vol1-isu4.html>, this interval is only applicable to cageless collocation arrangements under negotiated agreements, and it runs from the date that the collocator submits a deposit, which does not occur until US West first processes the application and develops a price quote. In addition, the qualifiers US West places on this minimum interval are significant. US West defines "power availability" as a battery distribution fuse bay within 80 feet with reserved termination capacity, and "space availability" as vacant space that is already collocation-qualified and that requires no equipment or circuit moves. Except in these narrow circumstances, the standard collocation interval for US West is 90 calendar days *after* the collocator submits its deposit, or approximately 120 calendar days from submission of an application. In addition, if the power plant must be upgraded, the interval from the date of the deposit can be as long as 240 days. Once again, the Commission has cited an example that only serves to prove that a 90-day interval cannot be met on all applications.

In the *Order on Reconsideration*, the Commission recognizes that, with these two exceptions, the minimum collocation intervals in all of the other states are substantially longer than 90 days. *See Order on Reconsideration*,<sup>2</sup> ¶¶ 18-19, citing New York (105



calendar days) Florida (90 calendar days from receipt of deposit), Pennsylvania (over 35 days for price quote and deposit plus 90 calendar days). The order fails to recognize that the maximum collocation intervals in these states are substantially greater when space is unconditioned, when forecasts are not submitted, or when special construction is necessary. As a result, none of these state decisions provides any support for the Commission's finding that the carriers can meet every type of collocation request in 90 days.

While the *Order on Reconsideration* allows a local exchange carrier to ask the state commission for longer intervals in specific circumstances where the carrier is not capable of meeting the 90-day standard (*See, Order on Reconsideration* ¶¶ 33, 37), setting intervals on a case-by-case basis is not a practical solution. The 90-day interval is so short that exceptions will be required for as many as half of the applications. Neither the states nor the local exchange carriers have the resources to deal with such a large amount of exemption petitions within 90 calendar days, and the time necessary to do so in each case would only add to the delay and uncertainty about when the arrangement can or should be completed. For this reason, the states that have established collocation intervals have incorporated exceptions to the standard interval for certain circumstances, such as special construction, asbestos removal, and large volumes of orders, that normally will require additional provisioning time.

The Commission's decision to adopt a collocation interval that is significantly shorter than the range of intervals in every state that has addressed the issue cannot be justified on the basis that it would help collocators compete more effectively. *See Order*